

18. (New) The method of claim 17, wherein the metal oxide abrasive is silica.

19. (New) The method of claim 18, wherein the metal oxide abrasive is fumed silica.

20. (New) The method of claim 18, wherein the total surface hydroxyl group density is no greater than about 2.8 hydroxyl groups per nm<sup>2</sup>.

21. (New) The method of claim 20, wherein the total surface hydroxyl group density is no greater than about 2.5 hydroxyl groups per nm<sup>2</sup>.

22. (New) The method of claim 18, wherein the substrate comprises a metal.

23. (New) The method of claim 22, wherein the metal of the substrate is selected from the group consisting of copper, aluminum, titanium, tungsten, gold, platinum, iridium, ruthenium, and combinations thereof.

24. (New) The method of claim 23, wherein the metal of the substrate is tungsten.

25. (New) The method of claim 18, wherein the substrate comprises a metal oxide.

26. (New) The method of claim 25, wherein the metal oxide of the substrate is selected from the group consisting of alumina, silica, titania, ceria, zirconia, germania, magnesia, and combinations thereof.

27. (New) The method of claim 26, wherein the metal oxide of the substrate is silica.

28. (New) The method of claim 18, wherein the substrate comprises a metal composite.